

Notice of Allowability

Application No.

10/018,878

Applicant(s)

ANDERSON ET AL.

Examiner

Delia M. Ramirez

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included
rewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS
NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative
the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

☒ This communication is responsive to 3/11/2004.

☒ The allowed claim(s) is/are 1,2,5-8,10-15,21,24,25,29-37,40,41,43-46 and 48.

☒ The drawings filed on 03 July 2003 are accepted by the Examiner.

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the
International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements
noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF
INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of
each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the
attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

☐ Notice of References Cited (PTO-892)

☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____

☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____

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DETAILED ACTION

Status of the Application

Claims 1-2, 5-8, 10-15, 21, 24-25, 29-37, 40-41, 43-46, 48 are pending.

Amendment of claims 7, 8, 15, 21, 31, 33, 36, 40, and cancellation of claim 49 in a communication filed on 3/11/2003 is acknowledged.

In a telephone conversation with Michael Conger on 3/23/2004, an agreement was reached to amend claims 15 and 25 to place the application in condition for allowance.

Examiner's Amendment

1. An informal Examiner's amendment to the specification appears below. This amendment is to update the current status of a prior application(s) referenced in the first sentence of the specification (37 CFR 1.78) and to capitalize the trademarks found in the specification.

2. Please enter the following amendments to the specification as follows:

3. In page 1, immediately after the title, please insert the following sentence:

This application is filed pursuant to 35 U.S.C. 371 as a United States National Phase Application of International Application No. PCT/GB00/02357 filed June 30, 2000, which is a continuation in part of U.S. Serial No. 09/345,492 filed July 1, 1999, now abandoned, which claims benefit of U.S. Serial No. 60/141,827 filed July 1, 1999.

4. In page 14, line 19, and page 16, line 11, please replace "Stratagene" with "STRATAGENE".

5. In page 15, Table 1, lines 4-5, please replace "Stratagene" with "STRATAGENE".

6. In page 15, Table 1, line 10, please replace "Life Technologies" with "LIFE TECHNOLOGIES".

7. In page 15, Table 1, line 11 and 33, please replace "Bio-Rad" with "BIO-RAD".

8. In page 15, Table 1, lines 5, 14, and 20, please replace "pBluescript" with "pBLUESCRIPT".

9. In page 16, line 11, please replace "pBluescript" with "pBLUESCRIPT".

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10. In page 16, line 25, please replace "Sigma" with "SIGMA".
11. In page 17, line 1 and page 19, line 19, please replace "Spherisorb" with "SPHERISORB".
12. In page 20, lines 12, 21, 29, please replace "Bio-Rad" with "BIO-RAD".
13. In page 20, lines 14, and page 21, line 5, 9, please replace "ChemGen" with "CHEMGEN".
14. In page 21, line 1, please replace "Promega" with "PROMEGA".
15. In page 21, line 33, please replace "Spherisorb" with "SPHERISORB".
16. In page 21, line 33, please replace "Alltech" with "ALLTECH".
17. In page 22, line 1, please replace "Shimadzu" with "SHIMADZU".
18. In page 25, lines 23-24, and page 26, Table 9, line 11, please replace "Difco" with "DIFCO".
19. In page 25, lines 21-22, and page 27, line 11, please replace "B. Braun" with "B. BRAUN".
20. In page 26, line 12, and page 26, Table 9, line 8, please replace "Amberex" with "AMBEREX".
21. In page 27, line 24, please replace "Dowex Optipore" with "DOWEX OPTIPORE".
22. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
23. Authorization for this Examiner's amendment was given in a telephone interview with Michael Conger on 3/23/2004.

Please enter the following amendments:

24. Please replace claim 15 as follows:

15. A DNA construct according to claim 1 wherein the modified T4 nrdA gene is modified such that the ribonucleotide reductase encoded by the unit is less sensitive to allosteric inhibition than the wild type equivalent of said ribonucleotide reductase.

25. Please replace claim 25 as follows:

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25 A DNA construct according to claim 24 wherein the *td* gene is located downstream from the modified *nrdA*, *nrdB*, and *nrdC* genes.

Reasons for Allowance

26. The following is an Examiner's statement of reasons for allowance. Although the prior art discloses the T4 *nrdA* gene, the T4 *nrdB* gene, the T4 *nrdC* gene, the *E. coli* uridine kinase gene, the *E. coli* dCTP deaminase gene, and the thymidylate synthase gene of many organisms, the Examiner has found no teaching or suggestion in the prior art directed to a DNA construct comprising a T4 *nrdA* gene comprising the polynucleotide of SEQ ID NO: 9, wherein said T4 *nrdA* gene encodes a ribonucleotide reductase which is less sensitive to allosteric inhibition when compared to the wild-type counterpart of such ribonucleotide reductase due to a modification at the dTTP binding site. Therefore, claims 1-2, 5-8, 10-15, 21, 24-25, 29-37, 40-41, 43-46, 48 directed to (1) a DNA construct comprising a T4 *nrdA* gene comprising the polynucleotide of SEQ ID NO: 9 or a T4 *nrdA* gene modified such that it encodes a ribonucleotide reductase which is less sensitive to allosteric inhibition when compared to the wild-type counterpart due to a modification at the dTTP binding site, (2) the construct of (1) further comprising the T4 *nrdB*, T4 *nrdC*, *E. coli udk*, and/or the *E. coli dcd* gene, (3) an *E. coli* host cell comprising said constructs, (4) the *E. coli* host cell of (3) further modified to display repressed or no uracil DNA glycosylase activity, and (5) a method to produce thymidine by culturing the host cell of (3), are allowable over the prior art of record.

27. Claims 1-2, 5-8, 10-15, 21, 24-25, 29-37, 40-41, 43-46, and 48 are allowed.

28. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delia M. Ramirez whose telephone number is (571) 272-0938. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy can be reached on (571) 272-0928. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Delia M. Ramirez, Ph.D.
Patent Examiner
Art Unit 1652

DR
April 2, 2004


REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP 1200
1600